



RARE PLANTS OF NEW HAMPSHIRE

Larger Bur-Reed

Sparganium eurycarpum Engelm. ex Gray **Synonyms:** giant bur-reed, broad-fruit bur-reed

Bur-Reed family (Sparganiaceae)

What Does It Look Like?

A stout, erect, perennial emergent aquatic herb. The base of the stem is slightly thickened and spongy. Tubers are formed underground from the rhizomes.

Leaves: The alternate leaves grow in two ranks along the stem. They are grass-like but slightly thickened and with a pronounced keel, reaching up to 80 cm (31.5 in.) long and 6-12 mm (0.25-0.5 in.) wide. They are parallel-veined but with a checkered appearance created by rectangular areoles or spaces between the veins.

Flowers: The white to greenish flowers are very small with inconspicuous parts but are arranged into distinctly spiny or bur-like spherical heads found toward the top half of the stem. The male or staminate flower heads are typically found toward the top of the stem above the female or pistillate flower heads. The female flower heads are larger and develop into the fruit. Flowering begins in June with fruit developing from July to September.

Fruit: The fruit are small nutlets or achenes with a style bearing two pointed stigmas. They are 4-8 mm (0.15 - 0.31 in.) wide at the widest portion (at the top of the shoulders which is below the base of the style). The body of the achene is faceted.

Key features: Larger bur-reed is easily distinguished from other bur-reeds either by the flowers or fruit which bear two stigmas and two locules or sections within the ovary. Occasional flowers may bear only one stigma. All other bur-reeds in New Hampshire have fruit that are 4 mm (0.15 inches) wide or smaller with a single stigma, a single locule, and with bodies that are not faceted or are only weakly faceted. Identification based on the two stigmas is best made with early fruit, since the stigmas may break off.

Similar species: Lesser bur-reed (*Sparganium americanum*) and branching bur-reed (*S. androcladum*) are the two most similar species. These both have flowers and fruit with a single style. The flowers and fruit differences are necessary to distinguish them. Differences between the leaves of these three species are not reliable for distinguishing species. Branching bur-reed is also rare in New Hampshire.



Where Is It Found?

This species is usually found near the coast in New Hampshire, in mud or shallow water of pond shores, stream or river edges, or in brackish swamps, but not in salt marshes. The specific habitat requirements of larger bur-reed in other parts of its range include neutral-to-alkaline, hard, and even brackish waters. It grows on mud, sand, or gravel, and sometimes among boulders on wave-washed shores. This species also seems to have some tolerance to drying out.

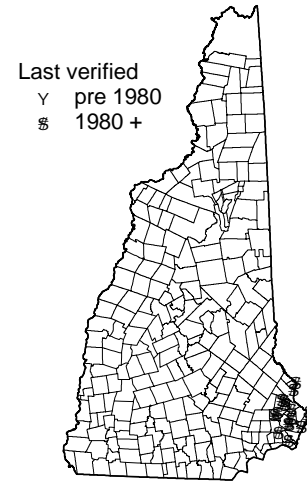
Wetland plant species frequently found with larger bur-reed include pickerel weed (*Pontederia cordata*), common arrowhead (*Sagittaria latifolia*), cattails (*Typha* spp.), sedges, rushes, grasses, and lesser bur-reed (*Sparganium americanum*). Larger bur-reed is known to be valuable to wildlife such as ducks, muskrat, and deer, both for food and cover.



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Conservation status: Larger bur-reed is threatened in New Hampshire. Of 16 known locations in the state, all have been verified since 1980. Populations range from just a few individuals to as many as 1,000 plants at the best locations.

Range: Newfoundland, south to Virginia, west to California, north to British Columbia.



Why Is It Rare?

The specific reasons for the rarity of larger bur-reed in New Hampshire are not known, although this species seems to prefer soils of basic pH which are less common in this state than acidic wetland soil types.

Conservation Considerations:

Threats include removing vegetation along pond shores or riverbanks where this species is known to grow. Invasive species are another threat, particularly where vegetation has already been disturbed. Several wetlands where larger bur-reed is found in New Hampshire have already been invaded by purple loosestrife (*Lythrum salicaria*). Common reed (*Phragmites australis*) is another invasive wetland species that could be a threat. Changes in water quality due to excess pollution and nutrients in stormwater runoff are also likely to be harmful.

The information in this fact sheet is current as of December 2002. It is based on a database maintained by the NH Natural Heritage Program, a bureau in the Division of Forests & Lands in the Department of Resources and Economic Development. NH Natural Heritage is a member of NatureServe, which represents an international network of Heritage programs. Illustration by Walter Lincoln Graham. Reprinted with permission from The New York Botanical Garden Press. Originally published in H. A. Gleason, *The New Britton and Brown Illustrated Flora of the Northeastern United States and Adjacent Canada*, Vol. I, p. 71, copyright 1952, The New York Botanical Garden.

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